



Box seq listing 1/1633

PATENT

ATTORNEY DOCKET NUMBER: 00786/351005

Certificate of Mailing: Date of Deposit: August 1, 2001

I hereby certify under 37 C.F.R. § 1.8(a) that this correspondence is being deposited with the United States Postal Service as **first class mail** with sufficient postage on the date indicated above and is addressed to the Assistant Commissioner of Patents, Washington, D.C. 20231.

Colleen Coyne

Printed name of person mailing correspondence

Colleen Coyne

Signature of person mailing correspondence

TECH CENTER 1600 12900

AUG 08 2001

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Gary Ruvkun et al.

Art Unit: 1633

Serial No.: 09/844,353

Examiner:

Filed: April 27, 2001

Customer No.: 21559

Title: THERAPEUTIC AND DIAGNOSTIC TOOLS FOR IMPAIRED
GLUCOSE TOLERANCE CONDITIONS

Assistant Commissioner For Patents
Washington, D.C. 20231

STATEMENT UNDER 37 C.F.R. § 1.825

In reply to the Notice to Comply mailed June 4, 2001 and as required by 37 C.F.R. § 1.825(a), enclosed is an amended sequence listing consisting of 63 sheets to be inserted at the end of the application.

The amendments correct typographical errors. I hereby submit that the substitute sheets contain no new matter.


As required by 37 C.F.R. § 1.825(b), enclosed is a diskette containing a copy of the sequence listing in computer readable form including all previously submitted data with the amendments incorporated therein. The contents of the computer readable form are the same as the contents of the paper sheets.

If there are any charges or any credits, please apply them to Deposit Account No.

03-2095.

Respectfully submitted,

Date: 1 August 2001



Karen L. Elbing, Ph.D.
Reg. No. 35,238

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176 Federal Street
Boston, MA 02110
Telephone: 617-428-0200
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\\Clark-w2k1\documents\00786\351xxx\00786.351005 Sequence Statement for Reply.wpd

00786.351005 Sequence Statement for Reply.wpd



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AUG 08 2001

TECH CENTER 1600/2900

SEQUENCE LISTING

<110> Ruvkun, Gary
Kimura, Koutarou
Patterson, Garth
Ogg, Scott
Paradis, Suzanne
Tissenbaum, Heidi
Morris, Jason
Kowweek, Allison

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IMPAIRED GLUCOSE TOLERANCE CONDITIONS

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Asn	Phe	Phe	Asp	Ile	Ile	Pro	Arg	Asp	Lys	Phe	His	Glu	Trp	Ala	Ala						
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Gln	Ile	Cys	Asp	Gly	Met	Ala	Tyr	Leu	Glu	Ser	Leu	Lys	Phe	Cys	His						
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Arg	Asp	Leu	Ala	Ala	Arg	Asn	Cys	Met	Ile	Asn	Arg	Asp	Glu	Thr	Val						
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Lys	Ile	Gly	Asp	Phe	Gly	Met	Ala	Arg	Asp	Leu	Phe	Tyr	His	Asp	Tyr						
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Tyr	Lys	Pro	Ser	Gly	Lys	Arg	Met	Met	Pro	Val	Arg	Trp	Met	Ser	Pro						
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Glu	Ser	Leu	Lys	Asp	Gly	Lys	Phe	Asp	Ser	Lys	Ser	Asp	Val	Trp	Ser						
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Phe	Gly	Val	Val	Leu	Tyr	Glu	Met	Val	Thr	Leu	Gly	Ala	Gln	Pro	Tyr						
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Ile	Gly	Leu	Ser	Asn	Asp	Glu	Val	Leu	Asn	Tyr	Ile	Gly	Met	Ala	Arg						
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Lys	Val	Ile	Lys	Lys	Pro	Glu	Cys	Cys	Glu	Asn	Tyr	Trp	Tyr	Lys	Val						
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Met	Lys	Met	Cys	Trp	Arg	Tyr	Ser	Pro	Arg	Asp	Arg	Pro	Thr	Phe	Leu						
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Gln	Leu	Val	His	Leu	Leu	Ala	Ala	Glu	Ala	Ser	Pro	Glu	Phe	Arg	Asp						
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Leu	Ser	Phe	Val	Leu	Thr	Asp	Asn	Gln	Met	Ile	Leu	Asp	Asp	Ser	Glu						
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Ala	Leu	Asp	Leu	Asp	Asp	Ile	Asp	Asp	Thr	Asp	Met	Asn	Asp	Gln	Val						
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Val	Glu	Val	Ala	Pro	Asp	Val	Glu	Asn	Val	Glu	Val	Gln	Ser	Asp	Ser						
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Glu	Arg	Arg	Asn	Thr	Asp	Ser	Ile	Pro	Leu	Lys	Gln	Phe	Lys	Thr	Ile						
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Pro	Pro	Ile	Asn	Ala	Thr	Thr	Ser	His	Ser	Thr	Ile	Ser	Ile	Asp	Glu						
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Thr	Pro	Met	Lys	Ala	Lys	Gln	Arg	Glu	Gly	Ser	Leu	Asp	Glu	Glu	Tyr						
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Tyr	Ala	Gly	Asp	Gly	Asp	Tyr	Val	Glu	Arg	Asp	Val	Arg	Glu	Asn	Asp						
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Val	Pro	Thr	Arg	Arg	Asn	Thr	Gly	Ala	Ser	Thr	Ser	Ser	Tyr	Thr	Gly						
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Gly	Gly	Pro	Tyr	Cys	Leu	Thr	Asn	Arg	Gly	Gly	Ser	Asn	Glu	Arg	Gly						
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Ala	Gly	Phe	Gly	Glu	Ala	Val	Arg	Leu	Thr	Asp	Gly	Val	Gly	Ser	Gly						
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His	Leu	Asn	Asp																		

Year	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40	2040-41	2041-42	2042-43	2043-44	2044-45	2045-46	2046-47	2047-48	2048-49	2049-50	2050-51	2051-52	2052-53	2053-54	2054-55	2055-56	2056-57	2057-58	2058-59	2059-60	2060-61	2061-62	2062-63	2063-64	2064-65	2065-66	2066-67	2067-68	2068-69	2069-70	2070-71	2071-72	2072-73	2073-74	2074-75	2075-76	2076-77	2077-78	2078-79	2079-80	2080-81	2081-82	2082-83	2083-84	2084-85	2085-86	2086-87	2087-88	2088-89	2089-90	2090-91	2091-92	2092-93	2093-94	2094-95	2095-96	2096-97	2097-98	2098-99	2099-00	2100-01	2101-02	2102-03	2103-04	2104-05	2105-06	2106-07	2107-08	2108-09	2109-10	2110-11	2111-12	2112-13	2113-14	2114-15	2115-16	2116-17	2117-18	2118-19	2119-20	2120-21	2121-22	2122-23	2123-24	2124-25	2125-26	2126-27	2127-28	2128-29	2129-30	2130-31	2131-32	2132-33	2133-34	2134-35	2135-36	2136-37	2137-38	2138-39	2139-40	2140-41	2141-42	2142-43	2143-44	2144-45	2145-46	2146-47	2147-48	2148-49	2149-50	2150-51	2151-52	2152-53	2153-54	2154-55	2155-56	2156-57	2157-58	2158-59	2159-60	2160-61	2161-62	2162-63	2163-64	2164-65	2165-66	2166-67	2167-68	2168-69	2169-70	2170-71	2171-72	2172-73	2173-74	2174-75	2175-76	2176-77	2177-78	2178-79	2179-80	2180-81	2181-82	2182-83	2183-84	2184-85	2185-86	2186-87	2187-88	2188-89	2189-90	2190-91	2191-92	2192-93	2193-94	2194-95	2195-96	2196-97	2197-98	2198-99	2199-00	2200-01	2201-02	2202-03	2203-04	2204-05	2205-06	2206-07	2207-08	2208-09	2209-10	2210-11	2211-12	2212-13	2213-14	2214-15	2215-16	2216-17	2217-18	2218-19	2219-20	2220-21	2221-22	2222-23	2223-24	2224-25	2225-26	2226-27	2227-28	2228-29	2229-30	2230-31	2231-32	2232-33	2233-34	2234-35	2235-36	2236-37	2237-38	2238-39	2239-40	2240-41	2241-42	2242-43	2243-44	2244-45	2245-46	2246-47	2247-48	2248-49	2249-50	2250-51	2251-52	2252-53	2253-54	2254-55	2255-56	2256-57	2257-58	2258-59	2259-60	2260-61	2261-62	2262-63	2263-64	2264-65	2265-66	2266-67	2267-68	2268-69	2269-70	2270-71	2271-72	2272-73	2273-74	2274-75	2275-76	2276-77	2277-78	2278-79	2279-80	2280-81	2281-82	2282-83	2283-84	2284-85	2285-8
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<212> PRT

<400> 14

<210> 15

<211> 31

<212> PRT

<400> 15

-9-

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 <213> Caenorhabditis elegans

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Trp	Lys	Asp	His	Pro	Glu	Met	Lys	His	Ile	Met	Glu	Ile	Ile	Lys	Thr	
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 <213> Caenorhabditis elegans

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Met	Leu	Thr	Glu	Asp	Gly	Lys	Tyr	Val	His	Ile	Asp	Phe	Gly	His	Ile	
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Leu	Gly	His	Gly	Lys	Thr	Lys	Leu	Gly	Ile	Gln	Arg	Asp	Arg	Gln	Pro	
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Phe	Ile	Leu	Thr	Glu	His	Phe	Met	Thr	Val	Ile	Arg	Ser	Gly	Lys	Ser	
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Val	Asp	Gly	Asn	Ser	His	Glu	Leu	Gln	Lys	Phe	Lys	Thr	Leu	Cys	Val	
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Glu	Ala	Tyr	Glu	Val	Met	Trp	Asn	Asn	Arg	Asp	Leu	Phe	Val	Ser	Leu	
		100						105					110			
Phe	Thr	Leu	Met	Leu	Gly	Met	Glu	Leu	Pro	Glu	Leu	Ser	Thr	Lys	Ala	
		115					120					125				
Asp	Leu	Asp	His	Leu	Lys	Lys	Thr	Leu	Phe	Cys	Asn	Gly	Glu	Ser	Lys	
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 <213> Caenorhabditis elegans

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		20						25					30		
Asn	Lys	Asn	Pro	Lys	Ser	Asp	Leu	His	Leu	Pro	Phe	Cys	Ala	Met	Ile
		35					40					45			
Phe	Lys	Asn	Gly	Asp	Asp	Leu	Arg	Gln	Asp	Met	Leu	Val	Leu	Gln	Val
		50				55					60				
Leu	Glu	Val	Met	Asp	Asn	Ile	Trp	Lys	Ala	Ala	Asn	Ile	Asp	Cys	Cys
65					70				75					80	
Leu	Asn	Pro	Tyr	Ala	Val	Leu	Pro	Met	Gly	Glu	Met	Ile	Gly	Ile	Ile
			85						90				95		
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Gly															

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 <212> PRT
 <213> Caenorhabditis elegans

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35 40 45
Lys Leu Asn Glu Gln Leu Ser Pro Val Thr Phe His Leu Phe Ile Leu
50 55 60
Pro Leu Ile Gln Ala Leu Lys Tyr Glu Pro Arg Ala Gln Ser Glu Val
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Gly Met Met Leu Leu Thr Arg Ala Leu Cys Asp Tyr Arg Ile Gly His
85 90 95
Arg Leu Phe Trp Leu Leu Arg Ala Glu Ile
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 <212> PRT
 <213> Caenorhabditis elegans

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20 25 30
Met Ser Met Ile Asp Gly Leu Gln Phe Leu His Asp Asp Arg Pro Tyr
35 40 45
Phe Phe Gly His Pro Lys Lys Pro Ile Ile His Arg Asp Ile Lys Ser
50 55 60
Lys Asn Ile Leu Val Lys Ser Asp Met Thr Thr Cys Ile Ala Asp Phe
65 70 75 80
Gly Leu Ala Arg Ile Tyr Ser Tyr Asp Ile Glu Gln Ser Asp Leu Leu
85 90 95
Gly Gln Val Gly Thr Lys Arg Tyr Met Ser Pro Glu Met Leu Glu Gly

100 105 110
 Ala Thr Glu Phe Thr Pro Thr Ala Phe Lys Ala Met Asp Val Tyr Ser
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 <213> Caenorhabditis elegans

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 Cys Ala Arg Ile Thr Ala Gly Cys Ala Phe Ala Arg Val
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<210> 22
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<400> 22
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<210> 23
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 <213> Caenorhabditis elegans

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 35 40 45
 Cys Asn Ile Pro Val Phe Val Gln Ser Ile Gly Ala Asn Met Lys Asn
 50 55 60
 Gly Phe Gln Leu Asn Thr Val Ser Lys Leu Pro Pro Thr Gly Thr Met
 65 70 75 80
 Lys Val Phe Asp Met Arg Leu Phe Ser Lys Gln Leu Arg Thr Ala Ala
 85 90 95
 Glu Lys Thr Tyr Gln Asp Val Tyr Cys Leu Ser Arg Met Cys Thr Val
 100 105 110
 Arg Val Ser Phe Cys Lys Gly Trp Gly Glu His Tyr Arg Arg Ser Thr
 115 120 125
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130 135 140
 His Trp Val Asp Ser Val Leu Thr Cys Met Gly Ala Pro Pro Arg Ile
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 Cys Ser Ser

<210> 24
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<400> 24
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 <212> PRT
 <213> Caenorhabditis elegans

<400> 25
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<210> 26
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 <212> PRT
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<400> 26
 Asn Leu Ala Glu Thr Gly His Ser Lys Ile Met Arg Ala Ala His Lys
 1 5 10 15
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 Tyr Ile Lys Leu Ile Tyr Val Asn Arg Asp Gly Arg Val Ser Ile Ala
 35 40 45
 Asn Val Asn Gly Met Ile Ala Lys Lys Cys Gly Cys
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<210> 27
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<400> 27
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23

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<220>
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18

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 Glu Ser Leu Lys Phe Cys His Arg Asp Leu Ala Ala Arg Asn Cys Met
 20 25 30
 Ile Asn Arg Asp Glu Thr Val Lys Ile Gly Asp Phe Gly Met Ala Arg
 35 40 45
 Asp Leu Phe Tyr His Asp Tyr Tyr Lys Pro Ser Gly Lys Arg Met Met
 50 55 60
 Pro Val Arg Trp Met Ser Pro Glu Ser Leu Lys Asp Gly Lys Phe Asp
 65 70 75 80
 Ser Lys Ser Asp Val Trp Ser Phe Gly Val Val Leu Tyr Glu Met Val
 85 90 95
 Thr Leu Gly Ala Gln Pro Tyr Ile Gly Leu Ser Asn Asp Glu Val Leu
 100 105 110
 Asn Tyr Ile Gly Met Ala Arg Lys Val Ile Lys Lys Pro Glu Cys
 115 120 125

<210> 34
 <211> 131
 <212> PRT
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<400> 34
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 20 25 30
 Gln Cys Val Gly Gly Cys Glu Arg Val Asn Asp Ala Thr Ala Cys His
 35 40 45

Ala Cys Lys Asn Val Tyr His Lys Gly Lys Cys Ile Glu Lys Cys Asp
50 55 60
Ala His Leu Tyr Leu Leu Gln Arg Arg Cys Val Thr Arg Glu Gln
65 70 75 80
Cys Leu Gln Leu Asn Pro Val Leu Ser Asn Lys Thr Val Pro Ile Lys
85 90 95
Ala Thr Ala Gly Leu Cys Ser Asp Lys Cys Pro Asp Gly Tyr Gln Ile
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Asn Pro Asp Asp His Arg Glu Cys Arg Lys Cys Val Gly Lys Cys Glu
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Ile Val Cys
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<211> 103
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35 40 45
Gln Val His Gly Arg Lys Gly Phe Pro His Val Val Tyr Gly Lys Leu
50 55 60
Trp Arg Phe Asn Glu Met Thr Lys Asn Glu Thr Arg His Val Asp His
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Cys Lys His Ala Phe Glu Met Lys Ser Asp Met Val Cys Val Asn Pro
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Tyr His Tyr Glu Ile Val Ile
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<210> 36
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<212> PRT
<213> Caenorhabditis elegans

<400> 36
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20 25 30
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Phe Val Thr Ser Gly Tyr Leu Asp Glu Gln Ser Gly Gly Leu Lys Lys
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Asp Lys Val His Lys Val Tyr Gly Cys Ala Ser Ile Lys Thr Phe
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<400> 37

Lys Lys Thr Thr Thr Arg Arg Asn Ala Trp Gly Asn Met Ser Tyr Ala
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 35 40 45
 Asp Lys Gly Asp Ser Asn Ser Ser Ala Gly Trp Lys Asn Ser Ile Arg
 50 55 60
 His Asn Leu Ser Leu His Ser Arg Phe Met Arg Ile Gln Asn Glu Gly
 65 70 75 80
 Ala Gly Lys Ser Ser Trp Trp Val Ile Asn Pro Asp Ala Lys Pro Gly
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 Met Asn Pro Arg Arg Thr Arg Glu Arg Ser
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<211> 60

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<213> Caenorhabditis elegans

<400> 38

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 20 25 30
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 Gln Pro Leu Ser Lys Leu Glu Leu His Gly Thr Phe
 50 55 60

<210> 39

<211> 2784

<212> DNA

<213> Caenorhabditis elegans

<400> 39

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 aaaccagcag tagatgaagc acggaaaaag atcgaagtcc cccgacgctag tgcgcgcgcca 300
 aacaaaattg tagaatattt gatgtattat agaacgttaa aagaaagtga actcatacaa 360
 ctgaatgcgt atcggacaaa acgaaatcga ttatcggtga acttgggtcaa aaacaatatt 420
 gatcgagagt tcgacccaaa agcttgcgag tccctgggtga aaaaattgaa ggataagaag 480
 aatgatctcc agaacctgat tgatgtggtt ctttcaaaag gtacaaaata taccggttgc 540
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 <213> Caenorhabditis elegans

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<212> PRT

<213> Caenorhabditis elegans

<400> 48

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<212> DNA

<213> *Caenorhabditis elegans*

<400> 52

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<213> Caenorhabditis elegans

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<213> Caenorhabditis elegans

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Asn	Val	Pro	Tyr	Phe	Arg	Asp	Lys	Gly	Asp	Ser	Asn	Ser	Ser	Ala	Gly
	50					55					60				
Trp	Lys	Asn	Ser	Ile	Arg	His	Asn	Leu	Ser	Leu	His	Ser	Arg	Phe	Met
65				70						75				80	
Arg	Ile	Gln	Asn	Glu	Gly	Ala	Gly	Lys	Ser	Ser	Trp	Trp	Val	Ile	Asn
			85						90					95	
Pro	Asp	Ala	Lys	Pro	Gly	Met	Asn	Pro	Arg	Arg	Thr	Arg			
			100					105							

<210> 57

<211> 655

<212> PRT

<213> Homo sapiens

<400> 57

Met	Ala	Glu	Ala	Pro	Gln	Val	Val	Glu	Ile	Asp	Pro	Asp	Phe	Glu	Pro
1				5				10					15		
Leu	Pro	Arg	Pro	Arg	Ser	Cys	Thr	Trp	Pro	Leu	Pro	Arg	Pro	Glu	Phe
		20						25					30		
Ser	Gln	Ser	Asn	Ser	Ala	Thr	Ser	Pro	Ala	Pro	Ser	Gly	Ser	Ala	
		35				40					45				
Ala	Ala	Asn	Pro	Asp	Ala	Ala	Ala	Gly	Leu	Pro	Ser	Ala	Ser	Ala	Ala
	50					55				60					
Ala	Val	Ser	Ala	Asp	Phe	Met	Ser	Asn	Leu	Ser	Leu	Leu	Glu	Glu	Ser
65				70					75					80	
Glu	Asp	Phe	Pro	Gln	Ala	Pro	Gly	Ser	Val	Ala	Ala	Ala	Val	Ala	Ala
			85						90					95	
Ala	Ala	Ala	Ala	Ala	Ala	Thr	Gly	Gly	Leu	Cys	Gly	Asp	Phe	Gln	Gly
			100				105						110		
Pro	Glu	Ala	Gly	Cys	Leu	His	Pro	Ala	Pro	Pro	Gln	Pro	Pro	Pro	Pro
		115					120					125			
Gly	Pro	Val	Ser	Gln	His	Pro	Pro	Val	Pro	Pro	Ala	Ala	Ala	Gly	Pro
		130				135					140				
Leu	Ala	Gly	Gln	Pro	Arg	Lys	Ser	Ser	Ser	Ser	Arg	Arg	Asn	Ala	Trp
145				150					155					160	
Gly	Asn	Leu	Ser	Tyr	Ala	Asp	Leu	Ile	Thr	Lys	Ala	Ile	Glu	Ser	Ser
			165						170				175		
Ala	Glu	Lys	Arg	Leu	Thr	Leu	Ser	Gln	Ile	Tyr	Glu	Trp	Met	Val	Lys
		180					185					190			
Ser	Val	Pro	Tyr	Phe	Lys	Asp	Lys	Gly	Asp	Ser	Asn	Ser	Ser	Ala	Gly
		195				200					205				
Trp	Lys	Asn	Ser	Ile	Arg	His	Asn	Leu	Ser	Leu	His	Ser	Lys	Phe	Ile
	210					215					220				
Arg	Val	Gln	Asn	Glu	Gly	Thr	Gly	Lys	Ser	Ser	Trp	Trp	Met	Leu	Asn
225				230						235				240	
Pro	Glu	Gly	Gly	Lys	Ser	Gly	Lys	Ser	Pro	Arg	Arg	Arg	Ala	Ala	Ser
			245					250						255	

Met Asp Asn Asn Ser Lys Phe Ala Lys Ser Arg Ser Arg Ala Ala Lys
 260 265 270
 Lys Lys Ala Ser Leu Gln Ser Gly Gln Glu Gly Ala Gly Asp Ser Pro
 275 280 285
 Gly Ser Gln Phe Ser Lys Trp Pro Ala Ser Pro Gly Ser His Ser Asn
 290 295 300
 Asp Asp Phe Asp Asn Trp Ser Thr Phe Arg Pro Arg Thr Ser Ser Asn
 305 310 315 320
 Ala Ser Thr Ile Ser Gly Arg Leu Ser Pro Ile Met Thr Glu Gln Asp
 325 330 335
 Asp Leu Gly Glu Gly Asp Val His Ser Met Val Tyr Pro Pro Ser Ala
 340 345 350
 Ala Lys Met Ala Ser Thr Leu Pro Ser Leu Ser Glu Ile Ser Asn Pro
 355 360 365
 Glu Asn Met Glu Asn Leu Leu Asp Asn Leu Asn Leu Leu Ser Ser Pro
 370 375 380
 Thr Ser Leu Thr Val Ser Thr Gln Ser Ser Pro Gly Thr Met Met Gln
 385 390 395 400
 Gln Thr Pro Cys Tyr Ser Phe Ala Pro Pro Asn Thr Ser Leu Asn Ser
 405 410 415
 Pro Ser Pro Asn Tyr Gln Lys Tyr Thr Tyr Gly Gln Ser Ser Met Ser
 420 425 430
 Pro Leu Pro Gln Met Pro Ile Gln Thr Leu Gln Asp Asn Lys Ser Ser
 435 440 445
 Tyr Gly Gly Met Ser Gln Tyr Asn Cys Ala Pro Gly Leu Leu Lys Glu
 450 455 460
 Leu Leu Thr Ser Asp Ser Pro Pro His Asn Asp Ile Met Thr Pro Val
 465 470 475 480
 Asp Pro Gly Val Ala Gln Pro Asn Ser Arg Val Leu Gly Gln Asn Val
 485 490 495
 Met Met Gly Pro Asn Ser Val Met Ser Thr Tyr Gly Ser Gln Ala Ser
 500 505 510
 His Asn Lys Met Met Asn Pro Ser Ser His Thr His Pro Gly His Ala
 515 520 525
 Gln Gln Thr Ser Ala Val Asn Gly Arg Pro Leu Pro His Thr Val Ser
 530 535 540
 Thr Met Pro His Thr Ser Gly Met Asn Arg Leu Thr Gln Val Lys Thr
 545 550 555 560
 Pro Val Gln Val Pro Leu Pro His Pro Met Gln Met Ser Ala Leu Gly
 565 570 575
 Gly Tyr Ser Ser Val Ser Ser Cys Asn Gly Tyr Gly Arg Met Gly Leu
 580 585 590
 Leu His Gln Glu Lys Leu Pro Ser Asp Leu Asp Gly Met Phe Ile Glu
 595 600 605
 Arg Leu Asp Cys Asp Met Glu Ser Ile Ile Arg Asn Asp Leu Met Asp
 610 615 620
 Gly Asp Thr Leu Asp Phe Asn Phe Asp Asn Val Leu Pro Asn Gln Ser
 625 630 635 640
 Phe Pro His Ser Val Lys Thr Thr Thr His Ser Trp Val Ser Gly
 645 650 655

<210> 58

<211> 98

<212> PRT

<213> Caenorhabditis elegans

<400> 58

Lys Pro Asn Pro Trp Gly Glu Glu Ser Tyr Ser Asp Ile Ile Ala Lys
 1 5 10 15
 Ala Leu Glu Ser Ala Pro Asp Gly Arg Leu Lys Leu Asn Glu Ile Tyr
 20 25 30
 Gln Trp Phe Ser Asp Asn Ile Pro Tyr Phe Gly Glu Arg Ser Ser Pro
 35 40 45
 Glu Glu Ala Ala Gly Trp Lys Asn Ser Ile Arg His Asn Leu Ser Leu
 50 55 60
 His Ser Arg Phe Met Arg Ile Gln Asn Glu Gly Ala Gly Lys Ser Ser
 65 70 75 80
 Trp Trp Val Ile Asn Pro Asp Ala Lys Pro Gly Met Asn Pro Arg Arg
 85 90 95
 Thr Arg

<210> 59
 <211> 7
 <212> PRT
 <213> Caenorhabditis elegans

<400> 59
 Trp Lys Asn Ser Ile Arg His
 1 5

<210> 60
 <211> 121
 <212> PRT
 <213> Caenorhabditis elegans

<400> 60
 Gln Val Leu Asp Asp His Asp Tyr Gly Arg Cys Val Asp Trp Trp Gly
 1 5 10 15
 Val Gly Val Val Met Tyr Glu Met Met Cys Gly Arg Leu Pro Phe Tyr
 20 25 30
 Ser Lys Asp His Asn Lys Leu Phe Glu Leu Ile Met Ala Gly Asp Leu
 35 40 45
 Arg Phe Pro Ser Lys Leu Ser Gln Glu Ala Arg Thr Leu Leu Thr Gly
 50 55 60
 Leu Leu Val Lys Asp Pro Thr Gln Arg Leu Gly Gly Gly Pro Glu Asp
 65 70 75 80
 Ala Leu Glu Ile Cys Arg Ala Asp Phe Phe Arg Thr Val Asp Trp Glu
 85 90 95
 Ala Thr Tyr Arg Lys Glu Ile Glu Pro Pro Tyr Lys Pro Asn Val Gln
 100 105 110
 Ser Glu Thr Asp Thr Ser Tyr Phe Asp
 115 120

<210> 61
 <211> 66
 <212> PRT
 <213> Caenorhabditis elegans

<400> 61
 Thr Met Glu Asp Phe Asp Phe Leu Lys Val Leu Gly Lys Gly Thr Phe
 1 5 10 15

Gly Lys Val Ile Leu Cys Lys Glu Lys Arg Thr Gln Lys Leu Tyr Ala
 20 25 30
 Ile Lys Ile Leu Lys Lys Asp Val Ile Ile Ala Arg Glu Glu Val Ala
 35 40 45
 His Thr Leu Thr Glu Asn Arg Val Leu Gln Arg Cys Lys His Pro Phe
 50 55 60
 Leu Thr
 65

<210> 62
 <211> 45
 <212> PRT
 <213> Caenorhabditis elegans

<400> 62
 Lys Leu Glu Asn Leu Leu Asp Lys Asp Gly His Ile Lys Ile Ala
 1 5 10 15
 Asp Phe Gly Leu Cys Lys Glu Glu Ile Ser Phe Gly Asp Lys Thr Ser
 20 25 30
 Thr Phe Cys Gly Thr Pro Glu Tyr Leu Ala Pro Glu Val
 35 40 45

<210> 63
 <211> 57
 <212> PRT
 <213> Caenorhabditis elegans

<400> 63
 Tyr Phe Gln Glu Leu Lys Tyr Ser Phe Gln Glu Gln His Tyr Leu Cys
 1 5 10 15
 Phe Val Met Gln Phe Ala Asn Gly Gly Glu Leu Phe Thr His Val Arg
 20 25 30
 Lys Cys Gly Thr Phe Ser Glu Pro Arg Ala Arg Phe Tyr Gly Ala Glu
 35 40 45
 Ile Val Leu Ala Leu Gly Tyr Leu His
 50 55

<210> 64
 <211> 59
 <212> PRT
 <213> Caenorhabditis elegans

<400> 64
 Ser Thr Phe Ala Ile Phe Tyr Phe Gln Thr Met Leu Phe Glu Lys Pro
 1 5 10 15
 Arg Pro Asn Met Phe Met Val Arg Cys Leu Gln Trp Thr Thr Val Ile
 20 25 30
 Glu Arg Thr Phe Tyr Ala Glu Ser Ala Glu Val Arg Gln Arg Trp Ile
 35 40 45
 His Ala Ile Glu Ser Ile Ser Lys Lys Tyr Lys
 50 55

<210> 65
 <211> 33

<212> PRT
 <213> Caenorhabditis elegans

<400> 65
 Leu Gln Glu Leu Lys Tyr Ser Phe Gln Thr Asn Asp Arg Leu Cys Phe
 1 5 10 15
 Val Met Glu Phe Ala Ile Gly Gly Asp Leu Tyr Tyr His Leu Asn Arg
 20 25 30
 Glu

<210> 66
 <211> 21
 <212> PRT
 <213> Caenorhabditis elegans

<400> 66
 Val Val Ile Glu Gly Trp Leu His Lys Lys Gly Glu His Ile Arg Asn
 1 5 10 15
 Trp Arg Pro Arg Phe
 20

<210> 67
 <211> 26
 <212> PRT
 <213> Caenorhabditis elegans

<400> 67
 Phe Ser Glu Pro Arg Ala Arg Phe Tyr Gly Ser Glu Ile Val Leu Ala
 1 5 10 15
 Leu Gly Tyr Leu His Ala Asn Ser Ile Val
 20 25

<210> 68
 <211> 39
 <212> PRT
 <213> Caenorhabditis elegans

<400> 68
 Ile Arg Val Ser Phe Cys Lys Gly Phe Gly Glu Thr Tyr Ser Arg Leu
 1 5 10 15
 Lys Val Val Asn Leu Pro Cys Trp Ile Glu Ile Ile Leu His Glu Pro
 20 25 30
 Ala Asp Glu Tyr Asp Thr Val
 35

<210> 69
 <211> 45
 <212> PRT
 <213> Caenorhabditis elegans

<400> 69
 Ser Arg Asn Ser Lys Ser Ser Gln Ile Arg Asn Thr Val Gly Ala Gly
 1 5 10 15

Ile Gln Leu Ala Tyr Glu Asn Gly Glu Leu Trp Leu Thr Val Leu Thr
20 25 30
Asp Gln Ile Val Phe Val Gln Cys Pro Phe Leu Asn Gln
35 40 45

<210> 70
<211> 29
<212> PRT
<213> Caenorhabditis elegans

<400> 70
Asn Glu Met Leu Asp Pro Glu Pro Lys Tyr Pro Lys Glu Glu Lys Pro
1 5 10 15
Trp Cys Thr Ile Phe Tyr Tyr Glu Leu Thr Val Arg Val
20 25

<210> 71
<211> 29
<212> PRT
<213> Caenorhabditis elegans

<400> 71
Gln Leu Gly Lys Ala Phe Glu Ala Lys Val Pro Thr Ile Thr Ile Asp
1 5 10 15
Gly Ala Thr Gly Ala Ser Asp Glu Cys Arg Met Ser Leu
20 25

<210> 72
<211> 105
<212> PRT
<213> Caenorhabditis elegans

<400> 72
Ser Pro Asp Asp Gly Leu Leu Asp Ser Ser Glu Glu Ser Arg Arg Arg
1 5 10 15
Gln Lys Thr Cys Arg Val Cys Gly Asp His Ala Thr Gly Tyr Asn Phe
20 25 30
Asn Val Ile Thr Cys Glu Ser Cys Lys Ala Phe Phe Arg Arg Asn Ala
35 40 45
Leu Arg Pro Lys Glu Phe Lys Cys Pro Tyr Ser Glu Asp Cys Glu Ile
50 55 60
Asn Ser Val Ser Arg Arg Phe Cys Gln Lys Cys Arg Leu Arg Lys Cys
65 70 75 80
Phe Thr Val Gly Met Lys Lys Glu Trp Ile Leu Asn Glu Glu Gln Leu
85 90 95
Arg Arg Arg Lys Asn Ser Arg Leu Asn
100 105

<210> 73
<211> 89
<212> PRT
<213> Caenorhabditis elegans

<400> 73

Leu Asp Ser Ser Glu Glu Ser Arg Arg Arg Gln Lys Thr Cys Arg Val
 1 5 10 15
 Cys Gly Asp His Ala Thr Gly Tyr Asn Phe Asn Val Ile Thr Cys Glu
 20 25 30
 Ser Cys Lys Ala Phe Phe Arg Arg Asn Ala Leu Arg Pro Lys Glu Phe
 35 40 45
 Lys Cys Pro Tyr Ser Glu Asp Cys Glu Ile Asn Ser Val Ser Arg Arg
 50 55 60
 Phe Cys Gln Lys Cys Arg Leu Arg Lys Cys Phe Thr Val Gly Met Lys
 65 70 75 80
 Lys Glu Trp Ile Leu Asn Glu Glu Gln
 85

<210> 74
 <211> 73
 <212> PRT
 <213> Caenorhabditis elegans

<400> 74
 Asp Ile Met Asn Ile Met Asp Val Thr Met Arg Arg Phe Val Lys Val
 1 5 10 15
 Ala Lys Gly Val Pro Ala Phe Arg Glu Val Ser Gln Glu Gly Lys Phe
 20 25 30
 Ser Leu Leu Lys Gly Gly Met Ile Glu Met Leu Thr Val Arg Gly Val
 35 40 45
 Thr Arg Tyr Asp Ala Ser Thr Asn Ser Phe Lys Thr Pro Thr Ile Lys
 50 55 60
 Gly Gln Asn Val Ser Val Asn Val Asp
 65 70

<210> 75
 <211> 112
 <212> PRT
 <213> Caenorhabditis elegans

<400> 75
 Ser Gly Ser Leu Val Asp Leu Met Ile Lys Asn Leu Thr Ala Tyr Thr
 1 5 10 15
 Gln Gly Leu Asn Glu Thr Val Lys Asn Arg Thr Ala Glu Leu Glu Lys
 20 25 30
 Glu Gln Glu Lys Gly Asp Gln Leu Leu Met Glu Leu Leu Pro Lys Ser
 35 40 45
 Val Ala Asn Asp Leu Lys Asn Gly Ile Ala Val Asp Pro Lys Val Tyr
 50 55 60
 Glu Asn Ala Thr Ile Leu Tyr Ser Asp Ile Val Gly Phe Thr Ser Leu
 65 70 75 80
 Cys Ser Gln Ser Gln Pro Met Glu Val Val Thr Leu Leu Ser Gly Met
 85 90 95
 Tyr Gln Arg Phe Asp Leu Ile Ile Ser Gln Gln Gly Gly Tyr Lys Val
 100 105 110

<210> 76
 <211> 107
 <212> PRT
 <213> Caenorhabditis elegans

<400> 76

Met Glu Thr Ile Gly Asp Ala Tyr Cys Val Ala Ala Gly Leu Pro Val
1 5 10 15
Val Met Glu Lys Asp His Val Lys Ser Ile Cys Met Ile Ala Leu Leu
20 25 30
Gln Arg Asp Cys Leu His His Phe Glu Ile Pro His Arg Pro Gly Thr
35 40 45
Phe Leu Asn Cys Arg Trp Gly Phe Asn Ser Gly Pro Val Phe Ala Gly
50 55 60
Val Ile Gly Gln Lys Ala Pro Arg Tyr Ala Cys Phe Gly Glu Ala Val
65 70 75 80
Ile Leu Ala Ser Lys Met Glu Ser Ser Gly Val Glu Asp Arg Ile Gln
85 90 95
Met Thr Leu Ala Ser Gln Gln Leu Leu Glu Glu
100 105

<210> 77

<211> 43

<212> PRT

<213> Caenorhabditis elegans

<400> 77

Asp Ile Leu Lys Gly Leu Glu Tyr Ile His Ala Ser Ala Ile Asp Phe
1 5 10 15
His Gly Asn Leu Thr Leu His Asn Cys Met Leu Asp Ser His Trp Ile
20 25 30
Val Lys Leu Ser Gly Phe Gly Val Asn Arg Leu
35 40

<210> 78

<211> 15

<212> PRT

<213> Caenorhabditis elegans

<400> 78

Asp Met Tyr Ser Phe Gly Val Ile Leu His Glu Ile Ile Leu Lys
1 5 10 15

<210> 79

<211> 67

<212> PRT

<213> Caenorhabditis elegans

<400> 79

Ala Ile Lys Ile Asn Val Asp Asp Pro Ala Ser Thr Glu Asn Leu Asn
1 5 10 15
Tyr Leu Met Glu Ala Asn Ile Met Lys Asn Phe Lys Thr Asn Phe Ile
20 25 30
Val Gln Leu Tyr Gly Val Ile Ser Thr Val Gln Pro Ala Met Val Val
35 40 45
Met Glu Met Met Asp Leu Gly Asn Leu Arg Asp Tyr Leu Arg Ser Lys
50 55 60
Arg Glu Asp
65

<210> 80
 <211> 54
 <212> PRT
 <213> Caenorhabditis elegans

<400> 80
 Val Ile Lys Lys Pro Glu Cys Cys Glu Asn Tyr Trp Tyr Lys Val Met
 1 5 10 15
 Lys Met Cys Trp Arg Tyr Ser Pro Arg Asp Arg Pro Thr Phe Leu Gln
 20 25 30
 Leu Val His Leu Leu Ala Ala Glu Ala Ser Pro Glu Phe Arg Asp Leu
 35 40 45
 Ser Phe Val Leu Thr Asp
 50

<210> 81
 <211> 69
 <212> PRT
 <213> Caenorhabditis elegans

<400> 81
 Lys Gln Asp Ser Gly Met Ala Ser Glu Leu Lys Asp Ile Phe Ala Asn
 1 5 10 15
 Ile His Thr Ile Thr Gly Tyr Leu Leu Val Arg Gln Ser Ser Pro Phe
 20 25 30
 Ile Ser Leu Asn Met Phe Arg Asn Leu Arg Arg Ile Glu Ala Lys Ser
 35 40 45
 Leu Phe Arg Asn Leu Tyr Ala Ile Thr Val Phe Glu Asn Pro Asn Leu
 50 55 60
 Lys Lys Leu Phe Asp
 65

<210> 82
 <211> 52
 <212> PRT
 <213> Caenorhabditis elegans

<400> 82
 Phe Pro His Leu Arg Glu Ile Thr Gly Thr Leu Leu Val Phe Glu Thr
 1 5 10 15
 Glu Gly Leu Val Asp Leu Arg Lys Ile Phe Pro Asn Leu Arg Val Ile
 20 25 30
 Gly Gly Arg Ser Leu Ile Gln His Tyr Ala Leu Ile Ile Tyr Arg Asn
 35 40 45
 Pro Asp Leu Glu
 50

<210> 83
 <211> 46
 <212> PRT
 <213> Caenorhabditis elegans

<400> 83
 Glu Ile Gly Leu Asp Lys Leu Ser Val Ile Arg Asn Gly Gly Val Arg
 1 5 10 15

Ile Ile Asp Asn Arg Lys Leu Cys Tyr Thr Lys Thr Ile Asp Trp Lys
 20 25 30
 His Leu Ile Thr Ser Ser Ile Asn Asp Val Val Val Asp Asn
 35 40 45

<210> 84
 <211> 36
 <212> PRT
 <213> Caenorhabditis elegans

<400> 84
 Tyr Asn Ala Asp Asp Trp Glu Leu Arg Gln Asp Asp Val Val Leu Gly
 1 5 10 15
 Gln Gln Cys Gly Glu Gly Ser Phe Gly Lys Val Tyr Leu Gly Thr Gly
 20 25 30
 Asn Asn Val Val
 35

<210> 85
 <211> 24
 <212> PRT
 <213> Caenorhabditis elegans

<400> 85
 Asp Ser Leu Ala Lys Tyr Cys Cys Val Arg Val Ser Phe Cys Lys Gly
 1 5 10 15
 Phe Gly Glu Ala Tyr Pro Glu Arg
 20

<210> 86
 <211> 13
 <212> PRT
 <213> Caenorhabditis elegans

<400> 86
 Gly Trp Asp Trp Ile Val Ala Pro Pro Arg Tyr Asn Ala
 1 5 10

<210> 87
 <211> 121
 <212> PRT
 <213> Homo sapiens

<400> 87
 Glu Val Leu Glu Asp Asn Asp Tyr Gly Arg Ala Val Asp Trp Trp Gly
 1 5 10 15
 Leu Gly Val Val Met Tyr Glu Met Met Cys Gly Arg Leu Pro Phe Tyr
 20 25 30
 Asn Gln Asp His Glu Lys Leu Phe Glu Leu Ile Leu Met Glu Glu Ile
 35 40 45
 Arg Phe Pro Arg Thr Leu Gly Pro Glu Ala Lys Ser Leu Leu Ser Gly
 50 55 60
 Leu Leu Lys Lys Asp Pro Thr Gln Arg Leu Gly Gly Gly Ser Glu Asp
 65 70 75 80

Ala Lys Glu Ile Met Gln His Arg Phe Phe Ala Asn Ile Val Trp Gln
85 90 95
Asp Val Tyr Glu Lys Lys Leu Ser Pro Pro Phe Lys Pro Gln Val Thr
100 105 110
Ser Glu Thr Asp Thr Arg Tyr Phe Asp
115 120

<210> 88
<211> 121
<212> PRT
<213> *Caenorhabditis elegans*

<400> 88
Gln Val Leu Asp Asp His Asp Tyr Gly Arg Cys Val Asp Trp Trp Gly
1 5 10 15
Val Gly Val Val Met Tyr Glu Met Met Cys Gly Arg Leu Pro Phe Tyr
20 25 30
Ser Lys Asp His Asn Lys Leu Phe Glu Leu Ile Met Ala Gly Asp Leu
35 40 45
Arg Phe Pro Ser Lys Leu Ser Gln Glu Ala Arg Thr Leu Leu Thr Gly
50 55 60
Leu Leu Val Lys Asp Pro Thr Gln Arg Leu Gly Gly Gly Pro Glu Asp
65 70 75 80
Ala Leu Glu Ile Cys Arg Ala Asp Phe Phe Arg Thr Val Asp Trp Glu
85 90 95
Ala Thr Tyr Arg Lys Glu Ile Glu Pro Pro Tyr Lys Pro Asn Val Gln
100 105 110
Ser Glu Thr Asp Thr Ser Tyr Phe Asp
115 120

<210> 89
<211> 66
<212> PRT
<213> *Homo sapiens*

<400> 89
Thr Met Asn Glu Phe Glu Tyr Leu Lys Leu Leu Gly Lys Gly Thr Phe
1 5 10 15
Gly Lys Val Ile Leu Val Lys Glu Lys Ala Thr Gly Arg Tyr Tyr Ala
20 25 30
Met Lys Ile Leu Lys Lys Glu Val Ile Val Ala Lys Asp Glu Val Ala
35 40 45
His Thr Leu Thr Glu Asn Arg Val Leu Gln Asn Ser Arg His Pro Phe
50 55 60
Leu Thr
65

<210> 90
<211> 66
<212> PRT
<213> *Caenorhabditis elegans*

<400> 90
Thr Met Glu Asp Phe Asp Phe Leu Lys Val Leu Gly Lys Gly Thr Phe
1 5 10 15

Gly Lys Val Ile Leu Cys Lys Glu Lys Arg Thr Gln Lys Leu Tyr Ala
 20 25 30
 Ile Lys Ile Leu Lys Lys Asp Val Ile Ile Ala Arg Glu Glu Val Ala
 35 40 45
 His Thr Leu Thr Glu Asn Arg Val Leu Gln Arg Cys Lys His Pro Phe
 50 55 60
 Leu Thr
 65

<210> 91
 <211> 45
 <212> PRT
 <213> Homo sapiens

<400> 91
 Lys Leu Glu Asn Leu Met Leu Asp Lys Asp Gly His Ile Lys Ile Thr
 1 5 10 15
 Asp Phe Gly Leu Cys Lys Glu Gly Ile Lys Asp Gly Ala Thr Met Lys
 20 25 30
 Thr Phe Cys Gly Thr Pro Glu Tyr Leu Ala Pro Glu Val
 35 40 45

<210> 92
 <211> 45
 <212> PRT
 <213> Caenorhabditis elegans

<400> 92
 Lys Leu Glu Asn Leu Leu Leu Asp Lys Asp Gly His Ile Lys Ile Ala
 1 5 10 15
 Asp Phe Gly Leu Cys Lys Glu Glu Ile Ser Phe Gly Asp Lys Thr Ser
 20 25 30
 Thr Phe Cys Gly Thr Pro Glu Tyr Leu Ala Pro Glu Val
 35 40 45

<210> 93
 <211> 57
 <212> PRT
 <213> Homo sapiens

<400> 93
 Phe Leu Thr Ala Leu Lys Tyr Ser Phe Gln Thr His Asp Arg Leu Cys
 1 5 10 15
 Phe Val Met Glu Tyr Ala Asn Gly Gly Glu Leu Phe Phe His Leu Ser
 20 25 30
 Arg Glu Arg Val Phe Ser Glu Asp Arg Ala Arg Phe Tyr Gly Ala Glu
 35 40 45
 Ile Val Ser Ala Leu Asp Tyr Leu His
 50 55

<210> 94
 <211> 57
 <212> PRT
 <213> Caenorhabditis elegans

<400> 94

Tyr Phe Gln Glu Leu Lys Tyr Ser Phe Gln Glu Gln His Tyr Leu Cys
1 5 10 15
Phe Val Met Gln Phe Ala Asn Gly Gly Glu Leu Phe Thr His Val Arg
20 25 30
Lys Cys Gly Thr Phe Ser Glu Pro Arg Ala Arg Phe Tyr Gly Ala Glu
35 40 45
Ile Val Leu Ala Leu Gly Tyr Leu His
50 55

<210> 95

<211> 59

<212> PRT

<213> Homo sapiens

<400> 95

Asn Asn Phe Ser Val Ala Gln Cys Gln Leu Met Lys Thr Glu Arg Pro
1 5 10 15
Arg Pro Asn Thr Phe Ile Ile Arg Cys Leu Gln Trp Thr Thr Val Ile
20 25 30
Glu Arg Thr Phe His Val Glu Thr Pro Glu Glu Arg Glu Glu Trp Ala
35 40 45
Thr Ala Ile Gln Thr Val Ala Asp Gly Leu Lys
50 55

<210> 96

<211> 59

<212> PRT

<213> Caenorhabditis elegans

<400> 96

Ser Thr Phe Ala Ile Phe Tyr Phe Gln Thr Met Leu Phe Glu Lys Pro
1 5 10 15
Arg Pro Asn Met Phe Met Val Arg Cys Leu Gln Trp Thr Thr Val Ile
20 25 30
Glu Arg Thr Phe Tyr Ala Glu Ser Ala Glu Val Arg Gln Arg Trp Ile
35 40 45
His Ala Ile Glu Ser Ile Ser Lys Lys Tyr Lys
50 55

<210> 97

<211> 33

<212> PRT

<213> Homo sapiens

<400> 97

Leu Thr Ala Leu Lys Tyr Ser Phe Gln Thr His Asp Arg Leu Cys Phe
1 5 10 15
Val Met Glu Tyr Ala Asn Gly Gly Glu Leu Phe Phe His Leu Ser Arg
20 25 30
Glu

<210> 98

<211> 33
 <212> PRT
 <213> Caenorhabditis elegans

<400> 98
 Leu Gln Glu Leu Lys Tyr Ser Phe Gln Thr Asn Asp Arg Leu Cys Phe
 1 5 10 15
 Val Met Glu Phe Ala Ile Gly Gly Asp Leu Tyr Tyr His Leu Asn Arg
 20 25 30
 Glu

<210> 99
 <211> 473
 <212> PRT
 <213> Homo sapiens

<400> 99
 Met Leu Gly Thr Val Lys Met Glu Gly His Glu Thr Ser Asp Trp Asn
 1 5 10 15
 Ser Tyr Tyr Ala Asp Thr Gln Glu Ala Tyr Ser Ser Val Pro Val Ser
 20 25 30
 Asn Met Asn Ser Gly Leu Gly Ser Met Asn Ser Met Asn Thr Tyr Met
 35 40 45
 Thr Met Asn Thr Met Thr Thr Ser Gly Asn Met Thr Pro Ala Ser Phe
 50 55 60
 Asn Met Ser Tyr Ala Asn Pro Ala Leu Gly Ala Gly Leu Ser Pro Gly
 65 70 75 80
 Ala Val Ala Gly Met Pro Gly Gly Ser Ala Gly Ala Met Asn Ser Met
 85 90 95
 Thr Ala Ala Gly Val Thr Ala Met Gly Thr Ala Leu Ser Pro Ser Gly
 100 105 110
 Met Gly Ala Met Gly Ala Gln Gln Ala Ala Ser Met Met Asn Gly Leu
 115 120 125
 Gly Pro Tyr Ala Ala Ala Met Asn Pro Cys Met Ser Pro Met Ala Tyr
 130 135 140
 Ala Pro Ser Asn Leu Gly Arg Ser Arg Ala Gly Gly Gly Asp Ala
 145 150 155 160
 Lys Thr Phe Lys Arg Ser Tyr Pro His Ala Lys Pro Pro Tyr Ser Tyr
 165 170 175
 Ile Ser Leu Ile Thr Met Ala Ile Gln Arg Ala Pro Ser Lys Met Leu
 180 185 190
 Thr Leu Ser Glu Ile Tyr Gln Trp Ile Met Asp Leu Phe Pro Tyr Tyr
 195 200 205
 Arg Gln Asn Gln Gln Arg Trp Gln Asn Ser Ile Arg His Ser Leu Ser
 210 215 220
 Phe Asn Asp Cys Phe Val Lys Val Ala Arg Ser Pro Asp Lys Pro Gly
 225 230 235 240
 Lys Gly Ser Tyr Trp Thr Leu His Pro Asp Ser Gly Asn Met Phe Glu
 245 250 255
 Asn Gly Cys Tyr Leu Arg Arg Gln Lys Arg Phe Lys Cys Glu Lys Gln
 260 265 270
 Pro Gly Ala Gly Gly Gly Gly Gly Ser Gly Ser Gly Gly Ser Gly Ala
 275 280 285
 Lys Gly Gly Pro Glu Ser Arg Lys Asp Pro Ser Gly Ala Ser Asn Pro
 290 295 300
 Ser Ala Asp Ser Pro Leu His Arg Gly Val His Gly Lys Thr Gly Gln

305					310					315				320	
Leu	Glu	Gly	Ala	Pro	Ala	Pro	Gly	Pro	Ala	Ala	Ser	Pro	Gln	Thr	Leu
				325					330					335	
Asp	His	Ser	Gly	Ala	Thr	Ala	Thr	Gly	Gly	Ala	Ser	Glu	Leu	Lys	Thr
			340					345					350		
Pro	Ala	Ser	Ser	Thr	Ala	Pro	Pro	Ile	Ser	Ser	Gly	Pro	Gly	Ala	Leu
		355					360					365			
Ala	Ser	Val	Pro	Ala	Ser	His	Pro	Ala	His	Gly	Leu	Ala	Pro	His	Glu
		370				375					380				
Ser	Gln	Leu	His	Leu	Lys	Gly	Asp	Pro	His	Tyr	Ser	Phe	Asn	His	Pro
385					390					395					400
Phe	Ser	Ile	Asn	Asn	Leu	Met	Ser	Ser	Ser	Glu	Gln	Gln	His	Lys	Leu
			405					410						415	
Asp	Phe	Lys	Ala	Tyr	Glu	Gln	Ala	Leu	Gln	Tyr	Ser	Pro	Tyr	Gly	Ser
			420					425					430		
Thr	Leu	Pro	Ala	Ser	Leu	Pro	Leu	Gly	Ser	Ala	Ser	Val	Thr	Thr	Arg
		435					440					445			
Ser	Pro	Ile	Glu	Pro	Ser	Ala	Leu	Glu	Pro	Ala	Tyr	Tyr	Gln	Gly	Val
	450					455					460				
Tyr	Ser	Arg	Pro	Val	Leu	Asn	Thr	Ser							
465					470										

<210> 100
 <211> 347
 <212> PRT
 <213> Homo sapiens

<400> 100

Met	Leu	Gly	Ser	Val	Lys	Met	Glu	Ala	His	Asp	Leu	Ala	Glu	Trp	Ser
1				5					10					15	
Tyr	Tyr	Pro	Glu	Ala	Gly	Glu	Val	Tyr	Ser	Pro	Val	Thr	Pro	Val	Pro
			20					25					30		
Thr	Met	Ala	Pro	Leu	Asn	Ser	Tyr	Met	Thr	Leu	Asn	Pro	Leu	Ser	Ser
		35				40					45				
Pro	Tyr	Pro	Gly	Gly	Leu	Pro	Ala	Ser	Pro	Leu	Pro	Ser	Gly	Pro	Leu
	50				55					60					
Ala	Pro	Pro	Ala	Pro	Ala	Pro	Leu	Gly	Pro	Thr	Phe	Pro	Gly	Leu	
65				70				75						80	
Gly	Leu	Ser	Gly	Gly	Ser	Ser	Ser	Ser	Gly	Tyr	Gly	Ala	Pro	Gly	Pro
			85					90					95		
Gly	Leu	Val	His	Gly	Lys	Glu	Met	Pro	Lys	Gly	Tyr	Arg	Ala	Pro	Ala
			100					105					110		
His	Ala	Lys	Pro	Pro	Tyr	Ser	Tyr	Ile	Ser	Leu	Ile	Thr	Met	Ala	Ile
		115				120						125			
Gln	Gln	Ala	Pro	Gly	Lys	Val	Leu	Thr	Leu	Ser	Glu	Ile	Tyr	Gln	Trp
	130				135						140				
Ile	Met	Asp	Leu	Phe	Pro	Tyr	Tyr	Arg	Asp	Asn	Gln	Gln	Arg	Trp	Gln
145				150					155						160
Asn	Ser	Ile	Arg	His	Ser	Leu	Ser	Phe	Asn	Asp	Cys	Phe	Val	Lys	Val
			165					170						175	
Ala	Arg	Ser	Pro	Asp	Lys	Pro	Gly	Lys	Gly	Ser	Tyr	Trp	Ala	Leu	His
			180					185					190		
Pro	Ser	Ser	Gly	Asn	Met	Phe	Glu	Asn	Gly	Cys	Tyr	Leu	Arg	Arg	Gln
		195				200						205			
Lys	Arg	Phe	Lys	Leu	Glu	Glu	Lys	Val	Lys	Lys	Gly	Gly	Ser	Gly	Ala
	210					215					220				
Ser	Thr	Thr	Arg	Asn	Gly	Thr	Gly	Ser	Ala	Ala	Ser	Thr	Thr	Thr	Pro

225					230					235					240
Ala	Ala	Thr	Val	Thr	Ser	Pro	Pro	Gln	Pro	Pro	Pro	Pro	Ala	Pro	Glu
				245					250					255	
Pro	Glu	Ala	Gln	Gly	Gly	Glu	Asp	Val	Gly	Ala	Leu	Asp	Cys	Gly	Ser
			260					265					270		
Pro	Ala	Ser	Ser	Thr	Pro	Tyr	Phe	Thr	Gly	Leu	Glu	Leu	Pro	Gly	Asp
		275					280					285			
Leu	Lys	Leu	Asp	Ala	Pro	Tyr	Asn	Phe	Asn	His	Pro	Phe	Ser	Ile	Asn
	290					295					300				
Asn	Leu	Met	Ser	Glu	Gln	Thr	Pro	Ala	Pro	Pro	Lys	Leu	Asp	Val	Gly
305					310					315					320
Phe	Gly	Gly	Tyr	Gly	Ala	Glu	Gly	Gly	Glu	Pro	Gly	Val	Tyr	Tyr	Gln
				325					330					335	
Gly	Leu	Tyr	Ser	Arg	Ser	Leu	Leu	Asn	Ala	Ser					
			340					345							

<210> 101

<211> 635

<212> PRT

<213> Caenorhabditis elegans

<400> 101

Met	Met	Glu	Met	Leu	Val	Asp	Gln	Gly	Thr	Asp	Ala	Ser	Ser	Ser	Ala
1				5					10					15	
Ser	Thr	Ser	Thr	Ser	Ser	Val	Ser	Arg	Phe	Gly	Ala	Asp	Thr	Phe	Met
			20					25					30		
Asn	Thr	Pro	Asp	Asp	Val	Met	Met	Asn	Asp	Asp	Met	Glu	Pro	Ile	Pro
		35				40						45			
Arg	Asp	Arg	Cys	Asn	Thr	Trp	Pro	Met	Arg	Arg	Pro	Gln	Leu	Glu	Pro
	50					55				60					
Pro	Leu	Asn	Ser	Ser	Pro	Ile	Ile	His	Glu	Gln	Ile	Pro	Glu	Glu	Asp
65				70					75					80	
Ala	Asp	Leu	Tyr	Gly	Ser	Asn	Glu	Gln	Cys	Gly	Gln	Leu	Gly	Gly	Ala
				85				90					95		
Ser	Ser	Asn	Gly	Ser	Thr	Ala	Met	Leu	His	Thr	Pro	Asp	Gly	Ser	Asn
		100					105						110		
Ser	His	Gln	Thr	Ser	Phe	Pro	Ser	Glu	Cys	Tyr	Thr	Trp	Pro	Met	Gln
	115						120					125			
Gln	Tyr	Ile	Tyr	Gln	Glu	Ser	Ser	Ala	Thr	Ile	Pro	His	His	His	Leu
	130					135					140				
Asn	Gln	His	Asn	Asn	Pro	Tyr	His	Pro	Met	His	Pro	His	His	Gln	Leu
145				150						155				160	
Pro	His	Met	Gln	Gln	Leu	Pro	Gln	Pro	Leu	Leu	Asn	Leu	Asn	Met	Thr
			165					170						175	
Thr	Leu	Thr	Ser	Ser	Gly	Ser	Ser	Val	Ala	Ser	Ser	Ile	Gly	Gly	Gly
		180					185						190		
Ala	Gln	Cys	Ser	Pro	Cys	Ala	Ser	Gly	Ser	Ser	Thr	Ala	Ala	Thr	Asn
	195					200					205				
Ser	Ser	Gln	Gln	Gln	Gln	Thr	Val	Gly	Gln	Met	Leu	Ala	Ala	Ser	Val
	210				215					220					
Pro	Cys	Ser	Ser	Ser	Gly	Met	Thr	Leu	Gly	Met	Ser	Leu	Asn	Leu	Ser
225				230					235					240	
Gln	Gly	Gly	Gly	Pro	Met	Pro	Ala	Lys	Lys	Lys	Arg	Cys	Arg	Lys	Lys
				245				250					255		
Pro	Thr	Asp	Gln	Leu	Ala	Gln	Lys	Lys	Pro	Asn	Pro	Trp	Gly	Glu	Glu
			260				265					270			
Ser	Tyr	Ser	Asp	Ile	Ile	Ala	Lys	Ala	Leu	Glu	Ser	Ala	Pro	Asp	Gly

	275		280		285
Arg	Leu Lys Leu Asn Glu Ile Tyr Gln Trp Phe Ser Asp Asn Ile Pro				
	290		295		300
Tyr	Phe Gly Glu Arg Ser Ser Pro Glu Glu Ala Ala Gly Trp Lys Asn				
305		310		315	320
Ser	Ile Arg His Asn Leu Ser Leu His Ser Arg Phe Met Arg Ile Gln				
	325		330		335
Asn	Glu Gly Ala Gly Lys Ser Ser Trp Trp Val Ile Asn Pro Asp Ala				
	340		345		350
Lys	Pro Gly Met Asn Pro Arg Arg Thr Arg Glu Arg Ser Asn Thr Ile				
	355		360		365
Glu	Thr Thr Thr Lys Ala Gln Leu Glu Lys Ser Arg Arg Gly Ala Lys				
	370		375		380
Lys	Arg Ile Lys Glu Arg Ala Leu Met Gly Ser Leu His Ser Thr Leu				
385		390		395	400
Asn	Gly Asn Ser Ile Ala Gly Ser Ile Gln Thr Ile Ser His Asp Leu				
	405		410		415
Tyr	Asp Asp Asp Ser Met Gln Gly Ala Phe Asp Asn Val Pro Ser Ser				
	420		425		430
Phe	Arg Pro Arg Thr Gln Ser Asn Leu Ser Ile Pro Gly Ser Ser Ser				
	435		440		445
Arg	Val Ser Pro Ala Ile Gly Ser Asp Ile Tyr Asp Asp Leu Glu Phe				
	450		455		460
Pro	Ser Trp Val Gly Glu Ser Val Pro Ala Ile Pro Ser Asp Ile Val				
465		470		475	480
Asp	Arg Thr Asp Gln Met Arg Ile Asp Ala Thr Thr His Ile Gly Gly				
	485		490		495
Val	Gln Ile Lys Gln Glu Ser Lys Pro Ile Lys Thr Glu Pro Ile Ala				
	500		505		510
Pro	Pro Pro Ser Tyr His Glu Leu Asn Ser Val Arg Gly Ser Cys Ala				
	515		520		525
Gln	Asn Pro Leu Leu Arg Asn Pro Ile Val Pro Ser Thr Asn Phe Lys				
	530		535		540
Pro	Met Pro Leu Pro Gly Ala Tyr Gly Asn Tyr Gln Asn Gly Gly Ile				
545		550		555	560
Thr	Pro Ile Asn Trp Leu Ser Thr Ser Asn Ser Ser Pro Leu Pro Gly				
	565		570		575
Ile	Gln Ser Cys Gly Ile Val Ala Ala Gln His Thr Val Ala Ser Ser				
	580		585		590
Ser	Ala Leu Pro Ile Asp Leu Glu Asn Leu Thr Leu Pro Asp Gln Pro				
	595		600		605
Leu	Met Asp Thr Met Asp Val Asp Ala Leu Ile Arg His Glu Leu Ser				
	610		615		620
Gln	Ala Gly Gly Gln His Ile His Phe Asp Leu				
625		630		635	

<210> 102

<211> 501

<212> PRT

<213> Homo sapiens

<400> 102

Met	Arg	Ile	Gln	Pro	Gln	Lys	Ala	Ala	Ala	Ile	Ile	Asp	Leu	Asp	Pro
1				5					10					15	
Asp	Phe	Glu	Pro	Gln	Ser	Arg	Pro	Arg	Ser	Cys	Thr	Trp	Pro	Leu	Pro
			20					25					30		
Arg	Pro	Glu	Ile	Ala	Asn	Gln	Pro	Ser	Glu	Pro	Pro	Glu	Val	Glu	Pro

<210> 103
 <211> 366
 <212> PRT
 <213> Homo sapiens

<400> 103

Arg	Gly	Ala	Ile	Arg	Ile	Glu	Lys	Asn	Ala	Asp	Leu	Cys	Tyr	Leu	Ser
1				5					10					15	
Thr	Val	Asp	Trp	Ser	Leu	Ile	Leu	Asp	Ala	Val	Ser	Asn	Asn	Tyr	Ile
			20					25					30		
Val	Gly	Asn	Lys	Pro	Pro	Lys	Glu	Cys	Gly	Asp	Leu	Cys	Pro	Gly	Thr
		35					40					45			
Met	Glu	Glu	Lys	Pro	Met	Cys	Glu	Lys	Thr	Thr	Ile	Asn	Asn	Glu	Tyr
	50					55					60				
Asn	Tyr	Arg	Cys	Trp	Thr	Thr	Asn	Arg	Cys	Gln	Lys	Met	Cys	Pro	Ser
65					70					75					80
Thr	Cys	Gly	Lys	Arg	Ala	Cys	Thr	Glu	Asn	Asn	Glu	Cys	Cys	His	Pro
				85					90					95	
Glu	Cys	Leu	Gly	Ser	Cys	Ser	Ala	Pro	Asp	Asn	Asp	Thr	Ala	Cys	Val
			100					105					110		
Ala	Cys	Arg	His	Tyr	Tyr	Tyr	Ala	Gly	Val	Cys	Val	Pro	Ala	Cys	Pro
		115					120					125			
Pro	Asn	Thr	Tyr	Arg	Phe	Glu	Gly	Trp	Arg	Cys	Val	Asp	Arg	Asp	Phe
		130				135					140				
Cys	Ala	Asn	Ile	Leu	Ser	Ala	Glu	Ser	Ser	Asp	Ser	Glu	Gly	Phe	Val
145					150					155					160
Ile	His	Asp	Gly	Glu	Cys	Met	Gln	Glu	Cys	Pro	Ser	Gly	Phe	Ile	Arg
				165					170					175	
Asn	Gly	Ser	Gln	Ser	Met	Tyr	Cys	Ile	Pro	Cys	Glu	Gly	Pro	Cys	Pro
			180					185					190		
Lys	Val	Cys	Glu	Glu	Glu	Lys	Lys	Thr	Lys	Thr	Ile	Asp	Ser	Val	Thr
		195					200					205			
Ser	Ala	Gln	Met	Leu	Gln	Gly	Cys	Thr	Ile	Phe	Lys	Gly	Asn	Leu	Leu
		210				215					220				
Ile	Asn	Ile	Arg	Arg	Gly	Asn	Asn	Ile	Ala	Ser	Glu	Leu	Glu	Asn	Phe
225					230					235					240
Met	Gly	Leu	Ile	Glu	Val	Val	Thr	Gly	Tyr	Val	Lys	Ile	Arg	His	Ser
				245					250					255	
His	Ala	Leu	Val	Ser	Leu	Ser	Phe	Leu	Lys	Asn	Leu	Arg	Leu	Ile	Leu
		260						265					270		
Gly	Glu	Glu	Gln	Leu	Glu	Gly	Asn	Tyr	Ser	Phe	Tyr	Val	Leu	Asp	Asn
		275					280					285			
Gln	Asn	Leu	Gln	Gln	Leu	Trp	Asp	Trp	Asp	His	Arg	Asn	Leu	Thr	Ile
		290				295					300				
Lys	Ala	Gly	Lys	Met	Tyr	Phe	Ala	Phe	Asn	Pro	Lys	Leu	Cys	Val	Ser
305					310					315					320
Glu	Ile	Tyr	Arg	Met	Glu	Glu	Val	Thr	Gly	Thr	Lys	Gly	Arg	Gln	Ser
				325					330					335	
Lys	Gly	Asp	Ile	Asn	Thr	Arg	Asn	Asn	Gly	Glu	Arg	Ala	Ser	Cys	Glu
			340					345					350		
Ser	Asp	Val	Leu	His	Phe	Thr	Ser	Thr	Thr	Thr	Ser	Lys	Asn		
		355					360						365		

<210> 104

<211> 370
 <212> PRT
 <213> Homo sapiens

<400> 104

Arg	Gly	Ser	Val	Arg	Ile	Glu	Lys	Asn	Asn	Glu	Leu	Cys	Tyr	Leu	Ala	
1				5					10					15		
Thr	Ile	Asp	Trp	Ser	Arg	Ile	Leu	Asp	Ser	Val	Glu	Asp	Asn	Tyr	Ile	
		20						25					30			
Val	Leu	Asn	Lys	Asp	Asp	Asn	Glu	Glu	Cys	Gly	Asp	Ile	Cys	Pro	Gly	
		35					40					45				
Thr	Ala	Lys	Gly	Lys	Thr	Asn	Cys	Pro	Ala	Thr	Val	Ile	Asn	Gly	Gln	
		50				55					60					
Phe	Val	Glu	Arg	Cys	Trp	Thr	His	Ser	His	Cys	Gln	Lys	Val	Cys	Pro	
65					70				75						80	
Thr	Ile	Cys	Lys	Ser	His	Gly	Cys	Thr	Ala	Glu	Gly	Leu	Cys	Cys	His	
				85					90					95		
Ser	Glu	Cys	Leu	Gly	Asn	Cys	Ser	Gln	Pro	Asp	Asp	Pro	Thr	Lys	Cys	
			100					105					110			
Val	Ala	Cys	Arg	Asn	Phe	Tyr	Leu	Asp	Gly	Arg	Cys	Val	Glu	Thr	Cys	
		115					120					125				
Pro	Pro	Pro	Tyr	Tyr	His	Phe	Gln	Asp	Trp	Arg	Cys	Val	Asn	Phe	Ser	
		130				135						140				
Phe	Cys	Gln	Asp	Leu	His	His	Lys	Cys	Lys	Asn	Ser	Arg	Arg	Gln	Gly	
145					150					155					160	
Cys	His	Gln	Tyr	Val	Ile	His	Asn	Asn	Lys	Cys	Ile	Pro	Glu	Cys	Pro	
				165					170					175		
Ser	Gly	Tyr	Thr	Met	Asn	Ser	Ser	Asn	Leu	Leu	Cys	Thr	Pro	Cys	Leu	
			180					185					190			
Gly	Pro	Cys	Pro	Lys	Val	Cys	His	Leu	Leu	Glu	Gly	Glu	Lys	Thr	Ile	
		195					200					205				
Asp	Ser	Val	Thr	Ser	Ala	Gln	Glu	Leu	Arg	Gly	Cys	Thr	Val	Ile	Asn	
		210				215					220					
Gly	Ser	Leu	Ile	Ile	Asn	Ile	Arg	Gly	Gly	Asn	Asn	Leu	Ala	Ala	Glu	
225					230					235					240	
Leu	Glu	Ala	Asn	Leu	Gly	Leu	Ile	Glu	Glu	Ile	Ser	Gly	Tyr	Leu	Lys	
			245						250					255		
Ile	Arg	Arg	Ser	Tyr	Ala	Leu	Val	Ser	Leu	Ser	Phe	Phe	Arg	Lys	Leu	
			260					265					270			
Arg	Leu	Ile	Arg	Gly	Glu	Thr	Leu	Glu	Ile	Gly	Asn	Tyr	Ser	Phe	Tyr	
		275					280					285				
Ala	Leu	Asp	Asn	Gln	Asn	Leu	Arg	Gln	Leu	Trp	Asp	Trp	Ser	Lys	His	
		290				295					300					
Asn	Leu	Thr	Ile	Thr	Gln	Gly	Lys	Leu	Phe	Phe	His	Tyr	Asn	Pro	Lys	
305					310					315					320	
Leu	Cys	Leu	Ser	Glu	Ile	His	Lys	Met	Glu	Glu	Val	Ser	Gly	Thr	Lys	
			325						330					335		
Gly	Arg	Gln	Glu	Arg	Asn	Asp	Ile	Ala	Leu	Lys	Thr	Asn	Gly	Asp	Gln	
		340						345					350			
Ala	Ser	Cys	Glu	Asn	Glu	Leu	Leu	Lys	Phe	Ser	Tyr	Ile	Arg	Thr	Ser	
		355					360					365				
Phe	Asp															
																370

<210> 105
 <211> 383
 <212> PRT

<213> Drosophila melanogaster

<400> 105

Arg	Gly	Gly	Val	Arg	Ile	Glu	Lys	Asn	His	Lys	Leu	Cys	Tyr	Asp	Arg
1				5					10					15	
Thr	Ile	Asp	Trp	Leu	Glu	Ile	Leu	Ala	Glu	Asn	Glu	Ser	Gln	Leu	Val
		20						25					30		
Val	Leu	Thr	Glu	Asn	Gly	Lys	Glu	Lys	Glu	Cys	Ser	Leu	Ser	Lys	Cys
		35				40						45			
Pro	Gly	Glu	Ile	Arg	Ile	Glu	Glu	Gly	His	Asp	Asn	Thr	Ala	Ile	Glu
	50					55					60				
Gly	Glu	Leu	Asn	Ala	Ser	Cys	Gln	Leu	His	Asn	Asn	Arg	Arg	Leu	Cys
65					70					75					80
Trp	Asn	Ser	Lys	Leu	Cys	Gln	Thr	Lys	Cys	Pro	Glu	Lys	Cys	Arg	Asn
			85						90					95	
Asn	Cys	Ile	Asp	Glu	His	Thr	Cys	Cys	Ser	Gln	Asp	Cys	Leu	Gly	Gly
			100					105					110		
Cys	Val	Ile	Asp	Lys	Asn	Gly	Asn	Glu	Ser	Cys	Ile	Ser	Cys	Arg	Asn
		115					120					125			
Val	Ser	Phe	Asn	Asn	Ile	Cys	Met	Asp	Ser	Cys	Pro	Lys	Gly	Tyr	Tyr
	130					135					140				
Gln	Phe	Asp	Ser	Arg	Cys	Val	Thr	Ala	Asn	Glu	Cys	Ile	Thr	Leu	Thr
145					150					155					160
Lys	Phe	Glu	Thr	Asn	Ser	Val	Tyr	Ser	Gly	Ile	Pro	Tyr	Asn	Gly	Gln
				165					170					175	
Cys	Ile	Thr	His	Cys	Pro	Thr	Gly	Tyr	Gln	Lys	Ser	Glu	Asn	Lys	Arg
			180					185					190		
Met	Cys	Glu	Pro	Cys	Pro	Gly	Gly	Lys	Cys	Asp	Lys	Glu	Cys	Ser	Ser
		195				200						205			
Gly	Leu	Ile	Asp	Ser	Leu	Glu	Arg	Ala	Arg	Glu	Phe	His	Gly	Cys	Thr
	210					215					220				
Ile	Ile	Thr	Gly	Thr	Glu	Pro	Leu	Thr	Ile	Ser	Ile	Lys	Arg	Glu	Ser
225					230					235					240
Gly	Ala	His	Val	Met	Asp	Glu	Leu	Lys	Tyr	Gly	Leu	Ala	Ala	Val	His
				245					250					255	
Lys	Ile	Gln	Ser	Ser	Leu	Met	Val	His	Leu	Thr	Tyr	Gly	Leu	Lys	Ser
			260					265					270		
Leu	Lys	Phe	Gln	Ser	Leu	Thr	Glu	Ile	Ser	Gly	Asp	Pro	Pro	Met	
		275				280					285				
Asp	Ala	Asp	Lys	Tyr	Ala	Leu	Tyr	Val	Leu	Asp	Asn	Arg	Asp	Leu	Asp
	290					295					300				
Glu	Leu	Trp	Gly	Pro	Asn	Gln	Thr	Val	Phe	Ile	Arg	Lys	Gly	Gly	Val
305					310					315					320
Phe	Phe	His	Phe	Asn	Pro	Lys	Leu	Cys	Val	Ser	Thr	Ile	Asn	Gln	Leu
				325					330					335	
Leu	Pro	Met	Leu	Ala	Ser	Lys	Pro	Lys	Phe	Phe	Glu	Lys	Ser	Asp	Glu
			340					345					350		
Gly	Ala	Asp	Ser	Asn	Gly	Asn	Arg	Gly	Ser	Cys	Gly	Thr	Ala	Val	Leu
		355				360						365			
Asn	Val	Thr	Leu	Gln	Ser	Val	Gly	Ala	Asn	Ser	Ala	Ser	Leu	Asn	
	370					375					380				

<210> 106

<211> 381

<212> PRT

<213> Caenorhabditis elegans

1				5				10					15				
Leu	Tyr	Val	Phe	His	Arg	Lys	Arg	Asn	Ser	Arg	Leu	Gly	Asn	Gly			
			20					25				30					
Val	Leu	Tyr	Ala	Ser	Val	Asn	Pro	Glu	Tyr	Phe	Ser	Ala	Ala	Asp	Val		
		35					40					45					
Tyr	Val	Pro	Asp	Glu	Trp	Glu	Val	Ala	Arg	Glu	Lys	Ile	Thr	Met	Ser		
		50				55					60						
Arg	Glu	Leu	Gly	Gln	Gly	Ser	Phe	Gly	Met	Val	Tyr	Glu	Gly	Val	Ala		
65				70					75						80		
Lys	Gly	Val	Val	Lys	Asp	Glu	Pro	Glu	Thr	Arg	Val	Ala	Ile	Lys	Thr		
				85					90					95			
Val	Asn	Glu	Ala	Ala	Ser	Met	Arg	Glu	Arg	Ile	Glu	Phe	Leu	Asn	Glu		
			100					105					110				
Ala	Ser	Val	Met	Lys	Glu	Phe	Asn	Cys	His	His	Val	Val	Arg	Leu	Leu		
		115					120					125					
Gly	Val	Val	Ser	Gln	Gly	Gln	Pro	Thr	Leu	Val	Ile	Met	Glu	Leu	Met		
		130			135						140						
Thr	Arg	Gly	Asp	Leu	Lys	Ser	Tyr	Leu	Arg	Ser	Leu	Arg	Pro	Glu	Met		
145				150					155						160		
Glu	Asn	Asn	Pro	Val	Leu	Ala	Pro	Pro	Ser	Leu	Ser	Lys	Met	Ile	Gln		
				165					170					175			
Met	Ala	Gly	Glu	Ile	Ala	Asp	Gly	Met	Ala	Tyr	Leu	Asn	Ala	Asn	Lys		
			180				185						190				
Phe	Val	His	Arg	Asp	Leu	Ala	Ala	Arg	Asn	Cys	Met	Val	Ala	Glu	Asp		
		195					200					205					
Phe	Thr	Val	Lys	Ile	Gly	Asp	Phe	Gly	Met	Thr	Arg	Asp	Ile	Tyr	Glu		
		210			215						220						
Thr	Asp	Tyr	Tyr	Arg	Lys	Gly	Gly	Lys	Gly	Leu	Leu	Pro	Val	Arg	Trp		
225				230						235					240		
Met	Ser	Pro	Glu	Ser	Leu	Lys	Asp	Gly	Val	Phe	Thr	Thr	Tyr	Ser	Asp		
				245					250					255			
Val	Trp	Ser	Phe	Gly	Val	Val	Leu	Trp	Glu	Ile	Ala	Thr	Leu	Ala	Glu		
			260				265						270				
Gln	Pro	Tyr	Gln	Gly	Leu	Ser	Asn	Glu	Gln	Val	Leu	Arg	Phe	Val	Met		
		275					280					285					
Glu	Gly	Gly	Leu	Leu	Asp	Lys	Pro	Asp	Asn	Cys	Pro	Asp	Met	Leu	Phe		
		290			295						300						
Glu	Leu	Met	Arg	Met	Cys	Trp	Gln	Tyr	Asn	Pro	Lys	Met	Arg	Pro	Ser		
305				310					315						320		
Phe	Leu	Glu	Ile	Ile	Ser	Ser	Ile	Lys	Glu	Glu	Met	Glu	Pro	Gly	Phe		
			325						330				335				
Arg	Glu	Val	Ser	Phe	Tyr	Tyr	Ser	Glu	Glu	Asn	Lys	Leu	Pro	Glu	Pro		
			340					345					350				
Glu	Glu	Leu	Asp	Leu	Glu	Pro	Glu	Asn	Met	Glu	Ser	Val	Pro	Leu	Asp		
		355					360					365					
Pro	Ser																
	370																

<210> 108
 <211> 374
 <212> PRT
 <213> Homo sapiens

<400> 108
 Ile Gly Pro Leu Ile Phe Val Phe Leu Phe Ser Val Val Ile Gly Ser
 1 5 10 15
 Ile Tyr Leu Phe Leu Arg Lys Arg Gln Pro Asp Gly Pro Leu Gly Pro

50					55					60				
Gln Cys Gly Glu Gly Ser Phe Gly Lys Val Tyr Leu Gly Thr Gly Asn														
65					70				75					80
Asn Val Val Ser Leu Met Gly Asp Arg Phe Gly Pro Cys Ala Ile Lys														
				85				90						95
Ile Asn Val Asp Asp Pro Ala Ser Thr Glu Asn Leu Asn Tyr Leu Met								105						
				100				120						110
Glu Ala Asn Ile Met Lys Asn Phe Lys Thr Asn Phe Ile Val Gln Leu														
				115				135						125
Tyr Gly Val Ile Ser Thr Val Gln Pro Ala Met Val Val Met Glu Met														
				130				140						
Met Asp Leu Gly Asn Leu Arg Asp Tyr Leu Arg Ser Lys Arg Glu Asp														
				145				155						160
Glu Val Phe Asn Glu Thr Asp Cys Asn Phe Phe Asp Ile Ile Pro Arg														
				165				170						175
Asp Lys Phe His Glu Trp Ala Ala Gln Ile Cys Asp Gly Met Ala Tyr														
				180				185						190
Leu Glu Ser Leu Lys Phe Cys His Arg Asp Leu Ala Ala Arg Asn Cys														
				195				200						205
Met Ile Asn Arg Asp Glu Thr Val Lys Ile Gly Asp Phe Gly Met Ala														
				210				215						220
Arg Asp Leu Phe Tyr His Asp Tyr Tyr Lys Pro Ser Gly Lys Arg Met														
				225				230						235
Met Pro Val Arg Trp Met Ser Pro Glu Ser Leu Lys Asp Gly Lys Phe														
				245				250						255
Asp Ser Lys Ser Asp Val Trp Ser Phe Gly Val Val Leu Tyr Glu Met														
				260				265						270
Val Thr Leu Gly Ala Gln Pro Tyr Ile Gly Leu Ser Asn Asp Glu Val														
				275				280						285
Leu Asn Tyr Ile Gly Met Ala Arg Lys Val Ile Lys Lys Pro Glu Cys														
				290				295						300
Cys Glu Asn Tyr Trp Tyr Lys Val Met Lys Met Cys Trp Arg Tyr Ser														
				305				310						315
Pro Arg Asp Arg Pro Thr Phe Leu Gln Leu Val His Leu Leu Ala Ala														
				325				330						335
Glu Ala Ser Pro Glu Phe Arg Asp Leu Ser Phe Val Leu Thr Asp Asn														
				340				345						350
Gln Met Ile Leu Asp Asp Ser Glu Ala Leu Asp Leu Asp Asp Ile Asp														
				355				360						365
Asp Thr Asp Met Asn Asp Gln Val Val Glu Val Ala														
				370				375						380

<210> 111
 <211> 103
 <212> PRT
 <213> Caenorhabditis elegans

<400> 111
 Asn Ile Asp Arg Glu Phe Asp Gln Lys Ala Cys Glu Ser Leu Val Lys
 1 5 10 15
 Lys Leu Lys Asp Lys Lys Asn Asp Leu Gln Asn Leu Ile Asp Val Val
 20 25 30
 Leu Ser Lys Gly Thr Lys Tyr Thr Gly Cys Ile Thr Ile Pro Arg Thr
 35 40 45
 Leu Asp Gly Arg Leu Gln Val His Gly Arg Lys Gly Phe Pro His Val
 50 55 60
 Val Tyr Gly Lys Leu Trp Arg Phe Asn Glu Met Thr Lys Asn Glu Thr

65 70 75 80
 Arg His Val Asp His Cys Lys His Ala Phe Glu Met Lys Ser Asp Met
 85 90 95
 Val Cys Val Asn Pro Tyr His
 100

<210> 112
 <211> 104
 <212> PRT
 <213> Homo sapiens

<400> 112
 Gly Gly Glu Ser Glu Thr Phe Ala Lys Arg Ala Ile Glu Ser Leu Val
 1 5 10 15
 Lys Lys Leu Lys Glu Lys Lys Asp Glu Leu Asp Ser Leu Ile Thr Ala
 20 25 30
 Ile Thr Thr Asn Gly Ala His Pro Ser Lys Cys Val Thr Ile Gln Arg
 35 40 45
 Thr Leu Asp Gly Arg Leu Gln Val Ala Gly Arg Lys Gly Phe Pro His
 50 55 60
 Val Ile Tyr Ala Arg Leu Trp Arg Trp Pro Asp Leu His Lys Asn Glu
 65 70 75 80
 Leu Lys His Val Lys Tyr Cys Gln Tyr Ala Phe Asp Leu Lys Cys Asp
 85 90 95
 Ser Val Cys Val Asn Pro Tyr His
 100

<210> 113
 <211> 205
 <212> PRT
 <213> Caenorhabditis elegans

<400> 113
 Ile Val Tyr Tyr Glu Lys Asn Leu Gln Ile Gly Glu Lys Lys Cys Ser
 1 5 10 15
 Arg Gly Asn Phe His Val Asp Gly Gly Phe Ile Cys Ser Glu Asn Arg
 20 25 30
 Tyr Ser Leu Gly Leu Glu Pro Asn Pro Ile Arg Glu Pro Val Ala Phe
 35 40 45
 Lys Val Arg Lys Ala Ile Val Asp Gly Ile Arg Phe Ser Tyr Lys Lys
 50 55 60
 Asp Gly Ser Val Trp Leu Gln Asn Arg Met Lys Tyr Pro Val Phe Val
 65 70 75 80
 Thr Ser Gly Tyr Leu Asp Glu Gln Ser Gly Gly Leu Lys Lys Asp Lys
 85 90 95
 Val His Lys Val Tyr Gly Cys Ala Ser Ile Lys Thr Phe Gly Phe Asn
 100 105 110
 Val Ser Lys Gln Ile Ile Arg Asp Ala Leu Leu Ser Lys Gln Met Ala
 115 120 125
 Thr Met Tyr Leu Gln Gly Lys Leu Thr Pro Met Asn Tyr Ile Tyr Glu
 130 135 140
 Lys Lys Thr Gln Glu Glu Leu Arg Arg Glu Ala Thr Arg Thr Thr Asp
 145 150 155 160
 Ser Leu Ala Lys Tyr Cys Cys Val Arg Val Ser Phe Cys Lys Gly Phe
 165 170 175
 Gly Glu Ala Tyr Pro Glu Arg Pro Ser Ile His Asp Cys Pro Val Trp

Ile Glu Leu Lys Ile Asn Ile Ala Tyr Asp Phe Met Asp
 180 185 190
 195 200 205

<210> 114
 <211> 212
 <212> PRT
 <213> Homo sapiens

<400> 114
 Ile Ala Tyr Phe Glu Met Asp Val Gln Val Gly Glu Thr Phe Lys Val
 1 5 10 15
 Pro Ser Ser Cys Pro Ile Val Thr Val Asp Gly Tyr Val Asp Pro Ser
 20 25 30
 Gly Gly Asp Arg Phe Cys Leu Gly Gln Leu Ser Asn Val His Arg Thr
 35 40 45
 Glu Ala Ile Glu Arg Ala Arg Leu His Ile Gly Lys Gly Val Gln Leu
 50 55 60
 Glu Cys Lys Gly Glu Gly Asp Val Trp Val Arg Cys Leu Ser Asp His
 65 70 75 80
 Ala Val Phe Val Gln Ser Tyr Tyr Leu Asp Arg Glu Ala Gly Arg Ala
 85 90 95
 Pro Gly Asp Ala Val His Lys Ile Tyr Pro Ser Ala Tyr Ile Lys Val
 100 105 110
 Phe Asp Leu Arg Gln Cys His Arg Gln Met Gln Gln Gln Ala Ala Thr
 115 120 125
 Ala Gln Ala Ala Ala Ala Ala Gln Ala Ala Val Ala Gly Asn Ile
 130 135 140
 Pro Gly Pro Gly Ser Val Gly Gly Ile Ala Pro Ala Ile Ser Leu Ser
 145 150 155 160
 Ala Ala Ala Gly Ile Gly Val Asp Asp Leu Arg Arg Leu Cys Ile Leu
 165 170 175
 Arg Met Ser Phe Val Lys Gly Trp Gly Pro Asp Tyr Pro Arg Gln Ser
 180 185 190
 Ile Lys Glu Thr Pro Cys Trp Ile Glu Ile His Leu His Arg Ala Leu
 195 200 205
 Gln Leu Leu Asp
 210